



Secretariat

GENERAL

ST/SG/AC.10/C.3/22

11 January 1996

Original: ENGLISH

COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the
Transport of Dangerous Goods

REPORT OF THE SUB-COMMITTEE OF EXPERTS
ON ITS ELEVENTH SESSION
(Geneva, 4-15 December 1995)

CONTENTS

	<u>Paragraphs</u>
ATTENDANCE	1 - 6
ADOPTION OF THE AGENDA	7
ELECTION OF OFFICERS	8
STATEMENT BY THE DIRECTOR	9 - 10
REVIEW OF CHAPTER 12 AND OF THE MULTIMODAL TANK TABLES	11 - 44
REFORMATTING OF THE RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS	45 - 80
REVIEW OF CHAPTER 15 (DANGEROUS GOODS IN LIMITED QUANTITIES)	81 - 97
ISO WORK ON STANDARDS FOR GAS CYLINDERS AND QUALITY ASSURANCE	98

CONTENTS (cont'd)

	<u>Paragraphs</u>
ROUTINE LISTING AND CLASSIFICATION	99 - 134
PACKAGINGS AND INTERMEDIATE BULK CONTAINERS (IBCs) ...	135 - 151
INFECTIOUS SUBSTANCES	152 - 158
IMPLEMENTATION OF AGENDA 21	159 - 204
RELATIONS WITH OTHER ORGANISATIONS	205
OTHER BUSINESS	206 - 209
FUTURE WORK PROGRAMME	210 - 214
TRIBUTES.	215 - 216
ADOPTION OF THE REPORT	217

Annex 1	REPORT OF THE WORKING GROUP ON PORTABLE TANKS (See document ST/SG/AC.10/C.3/22/Add.1)
Annex 2	DRAFT AMENDMENTS TO THE RECOMMENDATIONS
Annex 3	REPORTS OF THE WORKING GROUPS ON HARMONIZED CLASSIFICATION CRITERIA FOR REACTIVE SUBSTANCES AND FOR FLAMMABLE SUBSTANCES (See document ST/SG/AC.10/C.3/22/Add.2)

ATTENDANCE

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its eleventh session from 4 to 15 December 1995.
2. The session was attended by experts from the following countries: Argentina, Belgium, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, Morocco, Netherlands, Norway, Poland, Russian Federation, Sweden, United Kingdom, United States of America.
3. Observers from Algeria, Australia, Austria, Finland, Nigeria, Spain, Switzerland and Ukraine participated in accordance with rule 72 of the rules of procedure of the Economic and Social Council.
4. Representatives of the following specialized agencies also attended: International Labour Organization (ILO) and International Maritime Organization (IMO).
5. The following intergovernmental organizations were also represented: European Commission, Central Office for International Carriage by Rail (OCTI), Organization for Economic Cooperation and Development (OECD).
6. Representatives of the following non-governmental organizations: International Organization for Standardization (ISO), International Air Transport Association (IATA), European Chemical Industry Council (CEFIC), European Committee of Paint, Printing Ink Artists Colours Manufacturer's Associations (CEPE), Hazardous Materials Advisory Council (HMAC), International Road Transport Union (IRU), International Confederation of Drum Reconditioners (ICDR), European Portable Tank Association/Tank Container Association (EPTA/TCA), European Secretariat of Manufacturers of Light Metal Packagings (SEFEL), International Chamber of Shipping (ICS), European Fertilizer Manufacturer's Association (EFMA) and the Oil Compagnie's European Organization for Environment, Health and Safety (CONCAWE) */ took part in the discussions on items of interest to their organizations.

ADOPTION OF THE AGENDA

7. The Sub-Committee adopted the provisional agenda prepared by the secretariat (ST/SG/AC.10/C.3/21 and -/Add.1), as amended to include papers submitted late (informal document INF.2).

ELECTION OF OFFICERS

8. The Committee of Experts at its eighteenth session had re-elected Mr. L. Grainger (United Kingdom) and Mr. J. Monteith (Canada), Chairman and Vice-Chairman respectively for the biennium 1995-1996 (ST/SG/AC.10/21, para. 197).

*/ Participation in the Working Group on harmonized classification criteria for flammable substances only.

STATEMENT BY THE DIRECTOR

9. The Director of the Economic Commission for Europe's Transport Division, Mr. J. Capel Ferrer, welcomed participants. He informed the Sub-Committee of the new set of budgetary constraints with which the United Nations system had been contending since September 1995.

10. He also said that a working group of representatives of diplomatic missions of ECE members had been set up to consider the strategy and future of the Commission.

REVIEW OF CHAPTER 12 AND OF THE MULTIMODAL TANK TABLES

Application for accreditation by the European Portable Tank Association/Tank Container Association (EPTA/TCA)

Document: ST/SG/AC.10/C.3/R.645

Informal document: INF.9

11. On the basis of a joint application for accreditation submitted by EPTA and TCA, the Sub-Committee decided to grant them consultative status enabling them to participate jointly in its work and to present joint views.

Matters submitted by the Working Group on Portable Tanks (see ST/SG/AC.10/C.3/20, para. 33):

Alternate arrangements (see ST/SG/AC.10/C.3/R.595, para. 12.1.2)

12. The Chairman of the Working Group on Portable Tanks (Mr. Schultz-Forberg, Germany) explained that it would be preferable not to include the concept of "alternate arrangements" in chapter 12 as the new chapter 12 would have to form the basis of modal or national regulations. If it was included, it would be necessary either to provide for multilateral approval, or to draw up a list of the fields which might be involved, or to require services authorizing "alternate arrangements" to submit proposals to the Committee.

13. He said that the various options available for such alternate arrangements were:

Not to permit arrangements other than those contained in the Recommendations;
To permit alternate arrangements but make clear the extent to which they could be permitted;

To leave it to the competent authority to authorize alternate arrangements;

To leave the possibility of alternate arrangements open, subject to multilateral approval.

14. After lengthy discussion covering matters relating to the recognition of unilateral authorizations, the red tape involved in multilateral authorizations, the need to respond rapidly to developments in tank construction technology and the various legislative contexts applicable to international transport, the Sub-Committee decided to maintain a flexible approach and permit "alternate arrangements" with the authorization of at least one competent authority. Consequently, the text of paragraph 12.1.2 as contained in document ST/SG/AC.10/C.3/20/Add.1 was to be retained with the words "Competent Authority" replaced by "Competent Authority or Authorities".

15. The expert from the United States requested that a paragraph similar to paragraph 13.1.1.4.1 of the General Introduction to the IMDG Code should also be included to enable the competent authority to authorize the transport of substances not included in the list in chapter 12.

16. The Chairman of the Working Group on Portable Tanks noted the correlation between the concept of tank types and the rationalization of the method for identifying substances which could be carried in various types of tanks on the basis of their properties.

17. He also drew attention to the work already done in that area as part of the restructuring of RID and ADR and confirmed that it would be possible to complete that work by the end of 1996.

18. The Sub-Committee adopted the principle of drafting provisions for the definition of various types of tanks in the Recommendations on the basis of the characteristics of such tanks and the use to be made of them.

Paragraph 12.19.1 and the necessity to identify substances or groups of substances on the design approval certificate

19. After discussing whether it was necessary to identify, on the design approval certificates, substances or groups of substances which were compatible with the tank materials, or whether the responsibility of selecting the appropriate tank lay solely with the user or should be shared between competent authorities and users, the Sub-Committee decided to return to the question after it had been considered by the Working Group on Portable Tanks.

Rationalized approach for the assignment of substances to the tank table

Document: ST/SG/AC.10/C.3/R.618 (United States)

Informal documents: INF.15 (CEFIC), INF.21 (Netherlands), INF.25 (OCTI)

20. The Sub-Committee set up a drafting group to consider the principles of assigning requirements for transport in tanks according to the hazardous properties of the substances to be transported, as contained in the United States document (ST/SG/AC.10/C.3/R.618), together with the informal documents submitted.

21. The Sub-Committee took note of a verbal report by the Chairman of the Drafting Group (Mr. Monteith) (Canada) on the amendments proposed in the United States document (ST/SG/AC.10/C.3/R.618). The expert from the United States will submit a new version of this document for the next session.

4g impact test in paragraph 12.19.2.1

22. It was recalled that the principle of the 4g impact test had been adopted by the Working Party on an initial proposal by Canada, because of the stresses to which tank containers were subjected during rail transport in North America and Eastern Europe. The representative of OCTI pointed out that, in order to be able to transport tank containers manufactured to current (2g) requirements European railways had to use block trains or wagons fitted with appropriate shock-absorbers to prevent the containers themselves from absorbing the shock of impacts.

23. The representative of EPTA/TCA said that ISO was currently revising standard 1496-3 on containers and, in the course of that revision, would take account of accelerations of the order of 4g in the case of rail transport. It would be desirable, however, for railway experts to take part in those deliberations.

24. The question should also be considered by the IMO Sub-Committee on Dangerous Goods, Solid Cargoes and Containers as the body responsible for the International Convention for Safe Containers (CSC).

25. The Sub-Committee decided to adopt immediately the text of paragraph 12.19.2.1 contained in square brackets in document ST/SG/AC.10/C.3/21/Add.2, subject to other relevant norms for the 4g impact text being added later to the list of norms contained in the document.

Lower volume limit for portable tanks intended to transport pressure liquefied gases

26. The Sub-Committee decided to include in paragraph 12.24.2 a lower limit of 450 litres for tanks intended to transport liquefied gases as for those intended to transport liquids.

Introduction of explosion pressure proof tanks (para. 12.3.10)

Document: ST/SG/AC.10/C.3/R.689 (Germany)

27. The expert from Germany introduced his proposal, emphasizing that there were two ways of avoiding explosions in tanks: by fitting flame-traps to each vacuum relief valve (already provided for in para. 12.3.10 of the Recommendations), or by building explosion pressure proof tanks. Both possibilities were already provided for in RID/ADR.

28. The expert from the United Kingdom said that, while the principle of the proposals was acceptable, it was difficult, however, to reach a decision on the concept of "explosion pressure proof" in the absence of a definition.

29. Germany's proposal to allow for an additional possibility for preventing explosions was adopted by a large majority.

Restructuring/Working Group on Portable Tanks

30. Following a question by the Chairman of the Working Group on Portable Tanks, the Sub-Committee decided that the Group should, for the time being, work on the basis of the current chapter 12 and that it would be premature to anticipate the results of the restructuring process.

31. The expert from the United States announced that he would be able to submit later a proposal for requirements for multimodal tank containers to be incorporated in the restructured text.

Design temperature of multimodal tanks

Document: ST/SG/AC.10/C.3/R.671 (Canada)

32. The proposal was to specify a design temperature which took account of the extreme conditions that could be encountered in Northern countries and to lower the minimum design temperature from -20° C to -40° C.

33. The experts from Belgium and Italy said that that temperature would be too severe and would affect tank containers already in service. The expert from Belgium suggested allowing for two possibilities.

34. The Chairman of the Working Group recalled that the principle of the Group's work was to draw up requirements for multimodal tank containers which could be carried by all modes of transport in any region of the world. It would therefore be advisable to allow for the most severe conditions.

35. The matter was referred to the Working Group.

Documents referred to the Working Group on Portable Tanks

36. The Sub-Committee referred the following documents to the Working Group on Portable Tanks: ST/SG/AC.10/C.3/R.608/Rev.1, ST/SG/AC.10/C.3/R.621, ST/SG/AC.10/C.3/R.624, ST/SG/AC.10/C.3/R.646, ST/SG/AC.10/C.3/R.655, ST/SG/AC.10/C.3/R.671, ST/SG/AC.10/C.3/R.690, ST/SG/AC.10/C.3/R.692, ST/SG/AC.10/C.3/R.693 and INF.25.

Report of the Working Group on Portable Tanks

37. The Working Group met from 4 to 8 December, and the Chairman of the Working Group on Portable Tanks submitted the Group's report, which is reproduced in annex 1 to this report (see ST/SG/AC.10/C.3/22/Add.1).

38. He said that an informal meeting of the group, would take place in Atlanta from 25 to 29 March 1996 and would discuss the transport of liquefied gases in portable tanks and engage in a first reading of the text proposed for Chapter 17 (Refrigerated liquefied gases).

39. The Working Group on Portable Tanks asked the secretariat to send a letter to the International Union of Railways (UIC) and ISO (TC 104/SC.2/WG.4) to ensure UIC's participation in ISO's preparation of standards for containers, particularly concerning the 4g test.

40. The Group asked the Sub-Committee if it could meet for two weeks at the Sub-Committee's next session. In the course of the second week, an editorial group would deal with the consistency of the text and attempt to merge the three chapters concerning liquids, liquefied gases and refrigerated liquefied gases, and develop a new structure in the context of the reformatting.

41. The Sub-Committee's experts are requested to submit for the next session documents sufficiently in advance for them to be circulated as official documents, and not to submit informal documents.

42. The Sub-Committee approved the report and recommendations of the Working Group on Portable Tanks.

Terminology: "Flame traps"/"Flame arresters"

43. Further to confirmation by the Working Group that, in paragraph 12.3.10, the term "flame arrester" should replace the term "flame trap", the representative of EPTA/TCA informed the Sub-Committee (doc. INF.41) that the two terms did not have the same meaning. The term "flame trap" signified a simple device to prevent flame spreading by means of fine mesh metal gauze, and term "flame arrester" signified a more complicated device which was intended to put out a flame and had to undergo stringent approval tests. He said that the latter devices are not commonly used on tank containers and asked for the term "flame trap" to be retained until more detailed information could be provided.

44. The expert from Germany said that he would study the question and the Sub-Committee could revert to it, but the term "flame arrester" was still in the revised draft Chapter 12.

REFORMATTING OF THE RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Documents: ST/SG/AC.10/C.3/R.625 (Report of the Working Group, 30-31 March 1995), ST/SG/AC.10/C.3/R.658 (Argentina), ST/SG/AC.10/C.3/R.662 (Belgium), ST/SG/AC.10/C.3/R.596 (HMAC), ST/SG/AC.10/C.3/R.700 and -/Add.1 (HMAC)

Informal documents: INF.10 (secretariat), INF.13 (Germany and France), INF.15 CEFIC), INF.23 (Sweden), INF.35 (United States)

45. The representative of HMAC said that the consolidated text of the reformatted recommendations (ST/SG/AC.10/C.3/R.700/Add.1) was a new presentation of the current text of the Recommendations prepared in accordance with the decisions taken by the Sub-Committee at its preceding session.

46. He pointed out that the table annexed to document ST/SG/AC.10/C.3/R.700 showed the correspondences between the two texts, with a column for relevant remarks.

47. He also drew the Sub-Committee's attention to the proposed changes to special provisions (paras. 4 and 5 of document ST/SG/AC.10/C.3/R.700).

48. The Chairman expressed the view that Chapter 3 on special provisions had become unwieldy and needed to be rationalized.

49. The expert from Italy said that all the substantive changes proposed in the HMAC document, particularly those concerning special provisions, should be examined more closely.

50. The Sub-Committee decided that future proposals on the reformatting of the Recommendations should refer to the consolidated text in document ST/SG/AC.10/C.3/R.700/Add.1 and to the list of substances contained in document INF.35 prepared by the United States expert.

Part 1

51. A member of the secretariat commented on an informal document (INF.10) containing the draft table of contents of the restructured ADR and information on tables A and B

concerning the list of substances, and explained that the purpose of the document was to inform the Sub-Committee of the status of the work of the RID/ADR Joint Meeting, which now took account of the progress made by the Sub-Committee.

52. He also drew the Sub-Committee's attention to section 1.6 concerning the application of the regulation and covering, among other things, derogations, exemptions and transitional measures. That section would be useful as far as a standard regulation usable at national level was concerned.

53. Sections 1.4 and 1.5 were intended to reflect, in a general but succinct manner, all the provisions of the regulation so that the various users to whom specific parts were addressed (producers of dangerous goods, consignors, carriers, packaging and transport equipment manufacturers) could, by reading Part 1, quickly familiarize themselves with all the requirements contained in the regulation ("what must be done"). The basic proposal (TRANS/WP.15/AC.1/R.930), which had been submitted to the Joint Meeting by France, had been made available to the Sub-Committee.

54. A number of delegations said that that addition was not necessary for the United Nations Recommendations. The Sub-Committee took no decision on the question which was to be the subject of written proposals.

55. The expert from the United States said that, in his view, the main purpose of the reformatting was to develop a model regulation which could provide consistency if modal regulations such as the ICAO Technical Instructions and the IMDG Code were aligned on this model regulation, and provide a document for countries to adopt as national regulations. He stated that the United States, Canada and Mexico would use this model regulation as the basis for regulating cross-border transport of dangerous goods. The interests of countries applying ADR/RID should be balanced against these other interests.

Part 2 - Classification

56. The representative of CEFIC submitted a proposal (INF.15) on Part 2: Classification.

57. The expert from France said that the main merit of the proposal was that it presented in a single document all the information needed for classification, together with a list of generic and n.o.s. entries to simplify classification and the setting of conditions of carriage.

58. The representative of HMAC and the experts from Canada and the United States said that document ST/SG/AC.10/C.3/R.700/Add.1 covered the same ground as the CEFIC proposal, except for the proposed inclusion of a list of generic and n.o.s. entries, which ran counter to the decision taken at the preceding session not to include the current Appendix A in the body of the regulation.

59. After a lengthy discussion on this question, the Sub-Committee decided not to include a list of generic and n.o.s. entries in Part 2 of the model regulation.

Document: ST/SG/AC.10/C.3/R.658 (Argentina)

60. The Sub-Committee adopted Argentina's proposal to include provisions on training in Part 1.

61. The Sub-Committee took note of the Argentine expert's opinion that provisions contained in an appendix to a regulation (such as Appendix A) had the same legal force as the regulation itself.

List of dangerous goods

Document: ST/SG/AC.10/C.3/R.662 (Belgium)

62. With regard to the possibility of reviewing the decision to present the list of dangerous goods in numerical rather than alphabetical order (see ST/SG/AC.10/C.3/20, para. 123), the Chairman said that paragraph 123 did not quite reflect his conclusions. He had simply expressed the view that, given the number of delegations which had been in favour of alphabetical order, some experts would probably wish to reopen the discussion later.

63. The United States expert said that, while he favoured an alphabetical list, he had understood the budgetary arguments put forward by the secretariat regarding the cost of translating alphabetical lists and that he accepted the decision of the majority to maintain the numerical list. The expert from Mexico associated himself with that statement.

Part 7 - Packaging and IBCs

64. The expert from Sweden introduced an informal document (INF.23) proposing that all provisions relating to testing of packagings, IBCs, tanks, etc., should be included in a separate chapter.

65. The United States expert said that it would be preferable to keep to the arrangement proposed in the document prepared by HMAC (ST/SG/AC.10/C.3/R.700/Add.1) initially, on the grounds that any further proposals of that kind should be included in the second stage (see also ST/SG/AC.10/C.3/R.625 para. 47 (e)). The benefits of placing testing requirements for certain packaging types in a single section and leaving other testing requirements where they are at present was also questioned.

66. It was pointed out that the document prepared by HMAC did not take account of the new structure of chapter 16 adopted by the Sub-Committee on the proposal of Brazil (ST/SG/AC.10/C.3/R.616).

67. The expert from Germany said that any proposal concerning structure should be given due consideration in the course of the reformatting process.

68. A member of the secretariat said that it would not be advisable to issue a model regulation at the end of the biennium unless its structure was definitive, firstly because the reformatting process would have major budgetary implications for the United Nations translation services and there was no question of repeating such an exercise every two years, and secondly because it would not be reasonable to ask the Economic and Social Council to recommend to Governments and international organizations that they should adopt a new structure for their regulations, knowing that the structure in question was to be extensively revised in the very near future.

69. Finally, the Sub-Committee invited the Swedish expert to prepare a new formal document which took account of document ST/SG/AC.10/C.3/R.616.

70. The expert from Brazil offered to submit a new version of document ST/SG/AC.10/C.3/R.616 for the purposes of restructuring.

Inter-sessional informal working group

71. The representative of CEFIC offered to host an informal working group on restructuring in Brussels from 18 to 20 March 1996. The offer was accepted and the working group will meet under the chairmanship of Mr. Benassai (Italy).

72. The mandate of the group was defined as follows: to consider all proposals for amendments or additions to the draft reformatted Recommendations (document ST/SG/AC.10/C.3/R.700/Add.1), with a view to submitting written proposals at the following session of the Sub-Committee (July 1996).

73. The following documents will be among those considered by the group: ST/SG/AC.10/C.3/R.700/Add.1, TRANS/WP.15/AC.1/R.930, informal documents INF.10, INF.15 (except for pages 103 to 110), INF.23 and INF.35.

74. The representative of IMO said that she was concerned about the timing of the meeting. She explained that she would be unable to attend and that, because of the meeting schedule within IMO, if the IMO Sub-Committee on Dangerous Goods, Solid Cargoes and Containers agreed in February 1996 to participate in this work, no formal approval from the parent Committee will yet have been given to allow IMO to attend on a formal basis.

75. The expert from Belgium indicated that he hoped to attend this meeting and, as the Chairman of the IMO Editorial and Technical Group, would consider the impact of the discussions on the IMDG Code.

76. A member of the secretariat recalled that, according to Rule 24 of the Rules of Procedure of the Economic and Social Council, the Sub-Committee is not entitled to create an ad hoc intersessional subsidiary body without prior approval of the Council. Therefore such a meeting has to be considered as an informal meeting hosted by CEFIC. Any conclusion reached would have no United Nations status until it has been formally submitted to the Sub-Committee for due consideration as a proposal.

Other future proposals

77. The United States expert said that the priority for the biennium should be the correlation between the table and the provisions relating to explosives and the provisions on self-reactive substances and organic peroxides.

78. He also said that he intended to prepare a document comparing consignment procedures in effect in the UN Recommendations, United States regulations, the IMDG Code and the ICAO Technical Instructions.

79. A member of the secretariat underlined the importance given by the ECE Working Party on Facilitation of International Trade Procedures (WP.4) to the harmonization of

consignment procedures, in particular because of the differences between documentation requirements in RID/ADR and those contained in the IMDG Code and the ICAO Technical Instructions which are based on the United Nations Recommendations. (See also Recommendation No.11 on the Documentary Aspects of the Transport of Dangerous Goods, second edition, adopted by the ECE Working Party on Facilitation of International Trade Procedures, Geneva, September 1995, ECE/TRADE/196). He hoped, therefore, that that work would be completed as quickly as possible so that a proposal could be submitted to the RID/ADR Joint Meeting.

80. The expert from Germany offered to submit a document on packing instructions in January 1996 for discussion by the Working Group.

REVIEW OF CHAPTER 15 (DANGEROUS GOODS IN LIMITED QUANTITIES)

Documents: ST/SG/AC.10/C.3/R.669 (United Kingdom), ST/SG/AC.10/C.3/R.679 (Italy)

Informal documents: INF.4 (CEPE), INF.16 (CEFIC), INF.18/Corr.1 (United States) and INF.19 (secretariat)

81. The expert from Italy introduced document ST/SG/AC.10/C.3/R.679 which contained three proposals on exemptions and on the revision of chapter 15.

82. The Sub-Committee adopted the principle of inserting a paragraph 1.8 relating generally to exemptions in chapter 1, subject to editorial amendments made by a drafting group to take account, in particular, of the text of the future ADR marginal 2008a concerning the exemption of transport, by private individuals of products packaged for retail sale for their personal use.

83. The Sub-Committee also adopted the proposal on the exemption of mixtures and solutions containing dangerous substances in concentrations which did not meet the classification criteria.

84. The proposal to modify chapter 15, however, was not adopted.

Document: ST/SG/AC.10/C.3/R.669 (United Kingdom)

85. The United Kingdom expert commented on document ST/SG/AC.10/C.3/R.669 part of which overlapped the proposal made by Italy in document ST/SG/AC.10/C.3/R.679.

86. It was decided to take up the proposal again at the following session of the Sub-Committee.

Informal document: INF.4 (CEPE)

87. The representative of CEPE submitted a proposal to specify the types of packaging that could be used for limited quantities and to take account of the fact that, for some modes of transport, inner packagings had to be removed from outer packagings during the distribution process.

88. The proposal was not adopted, but it was suggested that a shorter text could be drafted during the biennium to cover transport distribution.

Informal document: INF.16 (CEFIC)

89. The representative of CEFIC raised the question of the use of the proper shipping name and the marking of packages in the case of transport subject to chapter 15.

90. Following a discussion on the question, the Chairman invited CEFIC to take account of the comments made and to submit an official document.

Informal document: INF.18/Corr.1 (United States)

91. In addition to comments on documents ST/SG/AC.10/C.3/R.679 and ST/SG/AC.10/C.3/R.669, this document contained a proposal to include provisions for the total exemption of goods carried in very small quantities, based on the ICAO Technical Instructions, with a few minor amendments.

92. Some delegations expressed interest in the principle of including such provisions in the Recommendations.

93. The representative of SEFEL said that such a proposal should cover all modes of transport, and not only air transport.

94. Several experts commented on this matter and the United States expert offered to prepare a new official document taking account of the observations made.

Informal document: INF.35 (United States)

95. The United States expert asked for the Sub-Committee's advice regarding the completion of column 7 (limited quantities) in the list of substances table in the draft reformatted Recommendations.

96. The Sub-Committee confirmed that the column must be retained. The experts from Germany and Italy expressed the view that permitted quantities should be indicated explicitly.

97. The Sub-Committee asked the United States expert to complete the column, for the time being, by references to the figures shown in Chapter 15 or by entering the word "none", where no limited quantities are permitted.

ISO WORK ON STANDARDS FOR GAS CYLINDERS AND QUALITY ASSURANCE

98. The Sub-Committee took note of the information provided by ISO in informal document INF.20 concerning progress made on the work carried out by the technical committee ISO/TC 58 "GAS CYLINDERS".

ROUTINE LISTING AND CLASSIFICATION

Classification of pesticides

Documents: ST/SG/AC.10/R.471 (secretariat), ST/SG/AC.10/C.3/R.670 (Germany),
ST/SG/AC.10/C.3/R.687 (United States)

Informal document: INF.8 (Argentina)

99. The expert from Germany said that a comparison of table 6.1 with the guidelines of the World Health Organization (WHO) for the classification of pesticides 1994-1995 showed that the documentation in both systems could be harmonized.

100. The observer for Switzerland pointed out that pesticides were the most commonly carried toxic substances and that it would be necessary, firstly, to ask WHO to take account of the United Nations generic entries for the designation of pesticide families and, secondly, to

use the International Maritime Organization's (IMO) Medical First Aid Guide (MFAG) as a basis, as the correlation between United Nations generic headings and appropriate MFAG tables was essential for effective emergency measures.

101. The United States expert proposed that the pesticides table should be deleted once and for all as it would not be possible to update it regularly in parallel with the WHO list. He stated that working jointly with WHO to bring the WHO list into line with the United Nations Recommendations classification would be very time-consuming and unnecessary.

102. Several experts stressed the importance, however, of cooperating with WHO to ensure at least the complementarity of the two systems and ease-of-use of the WHO list for transport purposes.

103. The Sub-Committee adopted the principle of the United States' proposal (ST/SG/AC.10/C.3/R.687) to delete the pesticides table in the following edition of the Recommendations, subject to the references to the WHO list being retained, together with the warnings on possible misuse.

104. The secretariat was asked to maintain contact with WHO on the matter.

Tank transport of organometallic water-reactive compounds, n.o.s. (UN No. 3207)

Document: ST/SG/AC.10/C.3/R.640 (CEFIC)

105. CEFIC's proposal to authorize tank transport of organometallic water-reactive compounds, n.o.s. (UN No. 3207) was adopted (see annex 2).

Proper shipping names for radioactive material

Documents: ST/SG/AC.10/C.3/R.642 (United States), ST/SG/AC.10/C.3/R.703
(secretariat)

106. The Sub-Committee adopted the proposal in document ST/SG/AC.10/C.3/R.703 to bring the Recommendations into line with the next version of the International Atomic Energy Agency's (IAEA) Regulations for the transport of radioactive material (see annex 2).

107. The United States expert said that he was satisfied with that decision and withdrew his document ST/SG/AC.10/C.3/R.642.

Exemption of limited quantities

Document: ST/SG/AC.10/C.3/R.643 (United States)

108. The United States expert informed the Sub-Committee of amendments to ICAO special provision A46 to permit the exemption of limited quantities of less than 10 ml of a packing group II or III flammable liquid absorbed into a solid substance.

109. The Sub-Committee decided to revert to the question at its following session, in connection with its consideration of the exemption of limited quantities.

Classification of acetic acid, UN No. 2790

Document: ST/SG/AC.10/C.3/R.647 (IATA)

110. The Sub-Committee adopted the principle of the proposal to establish a correlation between solution concentration and packing groups by means of a special provision rather than by creating a new entry, maintaining the current lower limit of 10% (see annex 2). It was observed that a 25% lower limit is used in RID, ADR and the IMDG Code. However, any change to the lower limit should be addressed by a written proposal.

111. It was noted that a similar approach, linking assignment to a packing group to a specific concentration, would simplify the classification of solutions of the most commonly carried corrosive or toxic substances, thus avoiding testing on animals. The members of the Sub-Committee were invited to reflect on the matter.

Lithium batteries

Document: ST/SG/AC.10/C.3/R.649 (ICAO)

112. This proposal to include a reference to lithium batteries in special provision 170 was adopted (see annex 2).

Special provision 229

Document: ST/SG/AC.10/C.3/R.650 (ICAO)

113. The Sub-Committee took note of the request submitted by ICAO to delete special provision 229 and allow each mode of transport to choose the appropriate packagings for items affected by that provision according to their needs. The proposal was not adopted, but the Sub-Committee took note of the point raised by ICAO.

Classification of vanadium pentoxide (UN No. 2862)

Document: ST/SG/AC.10/C.3/R.651 (United States)

114. This document will be considered at the next session when the data sheet is available.

Viscous flammable liquids

Document: ST/SG/AC.10/C.3/R.652 (ICAO)

115. The first matter raised by this document was the deregulation of some viscous liquids belonging to packing group III, authorized in the ninth edition of the Recommendations (para. 5.3.5). ICAO was of the view that insufficient justification had been given for including the new provision in the Recommendations. The United States expert said that that exemption would not be included in United States regulations and that he had submitted a proposal to IMO not to include the exemption in the IMDG Code.

116. The Sub-Committee invited CEPE to consider the matter with a view to submitting justifications to ICAO and IMO, and possibly a proposal for the following session.

117. ICAO's second comment concerning paragraph 5.6 (b) was noted and CEPE was invited to provide ICAO with information on this matter as well.

Labelling of packages containing carbon of vegetable origin (UN No. 1361)

Document: ST/SG/AC.10/C.3/R.657 (Argentina)

Informal document: INF.28 (Argentina)

118. Argentina's proposal to exempt labelling of carbon of vegetable origin if it was packed in plastic film or multiwall paper bags and carried in closed metal containers received no support and was therefore not adopted.

Classification based on human experience

Document: ST/SG/AC.10/C.3/R.660 (Argentina)

119. Consideration of this document was postponed until the following session. The expert from Germany offered to provide further information for the next session.

Other regulated substances in class 9

Document: ST/SG/AC.10/C.3/R.684 (HMAC)

Informal document: INF.41 (Germany)

120. The proposal by HMAC was to include in Class 9 new generic or n.o.s. entries for substances not covered by other classes but having anaesthetic, noxious or other properties likely to cause extreme annoyance or discomfort to flight crew members.

121. The expert from France said that it was not necessary to add UN numbers each time to meet the specific needs of a transport mode and that it would be preferable to include a general provision authorizing each mode to regulate such special cases.

122. On the proposal of Canada, the Sub-Committee adopted, in square brackets, the principle of the HMAC proposal and decided to take it up again at the following session (see annex 2). Proper shipping names should be devised to limit the applicability of these entries to air transport. It was however noted that problems arose in multimodal transport with labels applicable only for one mode of transport.

Xanthates

Document: ST/SG/AC.10/C.3/R.685 (Germany)

123. This proposal was deferred until the following session of the Sub-Committee.

Zinc ashes (UN No. 1435)

Document: ST/SG/AC.10/C.3/R.686 (United States)

124. The Sub-Committee adopted the proposal to add special provision 223 to the entry for zinc ashes (UN No. 1435), i.e. the possibility of considering this substance as non-dangerous, depending on the circumstances (see annex 2).

Portable tank assignments for UN Nos. 1921, 2922, 2986, 2987 and 2988

Document: ST/SG/AC.10/C.3/R.694 (United States)

125. The Sub-Committee adopted this proposal to authorize the transport of propyleneimine, corrosive liquids, toxic, n.o.s. and certain chlorosilanes in portable tanks (see annex 2).

Classification of ethyl cyanoacetate (UN No. 2666)

Document: ST/SG/AC.10/C.3/R.695 (United States)

126. The United States expert proposed deleting the entry for ethyl cyanoacetate (UN No. 2666) but it was decided to postpone consideration of the question to the following session, when the data sheet would be available.

Mercaptans, liquid, flammable, n.o.s. and mercaptan mixture, liquid, flammable n.o.s.

Document: ST/SG/AC.10/C.3/R.696 (United States)

127. The Sub-Committee adopted the introduction of this new item, since there are a number of mercaptans and mercaptan mixtures which do not possess toxic characteristics (see annex 2).

Piperidine (UN 2401)

Documents: ST/SG/AC.10/C.3/R.697 and Add.1 (United States)

128. Piperidine (UN 2401) was reclassified to Class 8, with a Class 3 subsidiary risk, Packing Group I.

Ammonium tetrachloromercurate (II)

Document: ST/SG/AC.10/C.3/R.698 (United States)

129. The Sub-Committee decided to delete from the Index of the Recommendations, "Ammonium tetrachloromercurate (II)" as a synonym for item UN 1630 (see annex 2).

Requirements for organic peroxides and self-reactive substances

Document: ST/SG/AC.10/C.3/R.699 (United States)

130. The Sub-Committee rejected the proposal for uniform temperature limits for organic peroxides and self-active substances.

Perfluoro (methyl vinyl ether)(UN 3153)

Informal documents: INF.14 and INF.14/Add.1 (Italy)

131. The introduction of an entry in Chapter 12 for the transport of this substance in tank containers was adopted on the basis of the data sheet presented by Italy.

Bromopropanes (UN 2344)

Document: INF.33 (United States)

132. The Sub-Committee decided to delete the entry concerning bromopropanes (UN 2344) on the basis of the data sheet prepared by the United States. The experts were none the less invited to verify the flash-points by the next session, since the informal document had not been circulated before the session (see also ST/SG/AC.10/C.3/R.607 and ST/SG/AC.10/C.3/20, para. 83).

Methylal (UN 1234)

Document: ST/SG/AC.10/C.3/R.608 and Informal document Rev.1 (Belgium)

133. The expert from Belgium furnished data on methylal indicating that this substance actually has a maximum vapour pressure of 103.4 kPa at 50° C. He said that, consequently, the minimum test pressure for tank transport should be 2.65 bar not 4 bar, since the 4 bar value is for a vapour pressure of 110 kPa (see also ST/SG/AC.10/C.3/20, para. 31).

134. The expert from Germany offered to verify the data on the vapour pressure of methylal and the Sub-Committee postponed the matter to its next session.

PACKAGINGS AND INTERMEDIATE BULK CONTAINERS (IBCs)

Drop test for solids

Document: ST/SG/AC.10/C.3/R.656 (Argentina)

135. The Sub-Committee did not adopt the proposal by Argentina to authorize, in drop tests for solids, a maximum tear of 10 per cent of the greatest length of an outer packaging containing several inner packagings.

Packaging definitions

Document: ST/SG/AC.10/C.3/R.665 (United Kingdom)

136. The expert from the United Kingdom explained that, in recent years, there was a wide assumption that IBCs could be used with inner packagings and for the transport of articles.

137. He considered that, in addition to difficulties in translating the "IBC" concept in the different languages, there were variations in interpretation due to the absence, in Chapter 16, of provisions on the use of inner packagings and the transport of articles.

138. The expert from the United Kingdom said that a number of solutions were possible: introduce in Chapter 16 tests for inner packagings and for articles of all classes; or, amend Chapter 9 to raise the maximum threshold and add a new section to deal with unpackaged articles and their means of handling; or permit the use of IBCs containing packagings or articles of Class 1; or combine these variants.

139. Several experts acknowledged the relevance of the problem raised by the United Kingdom, but some preferred not to change the present texts and most preferred to think of a solution which would not necessarily be in Chapters 9 and 16.

140. The Sub-Committee decided to revert to this question and invited the expert from the United Kingdom to review his proposal in the light of the comments made.

Combination packaging

Document: ST/SG/AC.10/C.3/R.704 (China)

Information document: INF.37 (CEPE and SEFEL)

141. Several speakers explained that the present provisions on combination packaging were satisfactory, because if the packaging cannot withstand the pressure differential, additional packaging is provided for. This does not rule out the possibility of manufacturing or handling problems.

142. The proposal by China was not adopted. The expert from China stated that he was satisfied with the explanations he had been given.

Plastics drum reconditioning and recycling

Documents: ST/SG/AC.10/R.472 (Germany), ST/SG/AC.10/C.3/R.654 (Argentina), ST/SG/AC.10/C.3/R.680, -/C.3/R.681 and -/C.3/R.682 (ICDR)

Informal document: INF.7 (Argentina)

143. The expert from Argentina replaced document ST/SG/AC.10/C.3/R.654 by INF.7, containing proposals relating to the discussion.

144. The representative from ICDR explained that the purpose of his document (ST/SG/AC.10/C.3/R.681) was to authorize the use of recycled plastics material in the manufacture of plastics packagings (para. 9.6.7.1.) and the introduction of a definition of recycled plastics material (para. 9.2.1). The technical justification for these proposals is given in document ST/SG/AC.10/C.3/R.682.

145. The expert from Germany emphasized that there were differences between the ICDR document (ST/SG/AC.10/C.3/R.682) and the German document (ST/SG/AC.10/R.472), which advocated that, for the time being, the use of drums and jerricans made of recycled plastics material should not be authorised for the transport of liquids, on the basis of a study of the properties of the recycled material.

146. The expert from Belgium asked the representative of ICDR whether he could confirm that, if the melt flow rate, the density and the tensile yield strength of a plastics material were identical to those of the plastics material of the tested design type, its resistance to ageing and to degradation caused by the substance contained and by ultra-violet radiation would also - in all circumstances - be identical. The representative of ICDR replied in the affirmative.

147. After a lengthy discussion, the Sub-Committee adopted the ICDR proposals (ST/SG/AC.10/C.3/R.681), with some changes reflected in annex 2 to this report.

148. The representative of ICDR went on to say that the purpose of the definition of "plastics drum" proposed in document ST/SG/AC.10/C.3/R.680 was to make sure that anyone who structurally altered a plastics drum met all of the obligations under the Recommendations for a new packaging manufacturer. After an exchange of views, the Sub-Committee adopted the proposed definition.

Review of Chapter 16 of the Recommendations

Documents: ST/SG/AC.10/C.3/R.616 (Brazil), ST/SG/AC.10/C.3/R.688
(United Kingdom and United States)

Informal documents: INF.29 and INF.31 (Argentina)

149. The Sub-Committee adopted the amendments to the document prepared by Brazil (ST/SG/AC.10/C.3/R.616) which were submitted by the United Kingdom and the United States in their joint proposal (ST/SG/AC.10/C.3/R.688).

150. The expert from Brazil said that he would prepare a consolidated text of Chapter 16 for January 1996 in light of the comments made.

151. The expert from Argentina said that he would prepare a new proposal on the basis of INF.31.

INFECTIOUS SUBSTANCES

Documents: ST/SG/AC.10/C.3/R.666 (United Kingdom), ST/SG/AC.10/C.3/R.667 (United Kingdom), ST/SG/AC.10/C.3/R.668 (United Kingdom)

Informal documents: INF.6 and -/Add.1 to 3 (Germany) and INF.30 (Argentina)

152. The expert from the United Kingdom explained that, on the basis of experience in his country, it should be possible to transport clinical waste or biomedical substances in flexible packagings.

153. The expert from India, referring to the Basel Convention, felt that the question of sharp objects being carried with other biomedical waste need careful consideration.

154. The expert from Germany said that it would be desirable to retain the present provisions, which posed no problems, and that he would submit proposals on the basis of documents INF.6 and -/Add.1 to 3.

155. Several experts took the view that it would be dangerous to transport clinical waste in flexible packagings.

156. The Sub-Committee adopted the amendment proposed by the United Kingdom in document ST/SG/AC.10/C.3/R.666 to broaden the scope of paragraph 6.10 to cover medical or biomedical waste, and to move paragraph 6.14.9 to become paragraph 6.10.3 (see annex 2).

157. The proposal for a new paragraph 6.10.3 covering medical or biomedical waste was not adopted, however, and the experts from Germany and the United Kingdom were invited to cooperate in submitting proposals at the next session.

158. The proposal by the United Kingdom concerning diagnosis specimens (ST/SG/AC.10/C.3/R.668) was not adopted and the proposal concerning the problems raised by packagings containing dry ice (ST/SG/AC.10/C.3/R.667) was postponed to the next session. The expert from Canada said that he would submit a document on the question of packagings containing dry ice.

IMPLEMENTATION OF AGENDA 21

General

159. The calendar of work of the various bodies cooperating in the harmonization of chemical classification and labelling systems (Programme area B of Agenda 21), was discussed, in particular:

Inter-sessional Group of the Intergovernmental Forum on Chemical Safety (Canberra, Australia, 4 to 8 March 1996);

Second session of the Forum (Ottawa, early 1997);

Commission on Sustainable Development (1997), which is to submit a global report on the implementation of Agenda 21 to the General Assembly in 1997.

160. In this context, it was pointed out that the proposals by the Committee of Experts regarding physical hazards can be considered by the 2nd meeting of the Intergovernmental Forum on Chemical Safety only if they are submitted in time to be translated into all the official languages of the United Nations, something which requires the Sub-Committee to complete its work at the next session.

161. Several delegations expressed their concern at the lack of progress in OECD on toxicity and corrosivity.

162. The Sub-Committee took note of the conclusions of the Coordinating Group of the Inter-organization Programme on Sound Management of Chemicals (IOMC Programme), regarding the progress and the work on the harmonization of chemical classification systems, more particularly the request to consider the implications on labelling systems as the work proceeded.

163. The Sub-Committee also took note of possible projects for effective implementation of harmonized systems. Several experts said they preferred implementation on a voluntary basis, as in the case of the Recommendations on the Transport of Dangerous Goods, rather than under an international convention which might take time to enter into force and could pose legal problems in the event of conflicts with present legal instruments on transport.

Classification of reactive substances

Document: ST/SG/AC.10/C.3/R.663 (United Kingdom)

Informal document: INF.11 (United States)

164. Both of these documents were the subject of lengthy debate on how to classify desensitized explosives and substances related to self-reactive substances. The expert from the United Kingdom would like to introduce in Division 4.1 new general entries for these substances which he would describe as "reactive substances". The expert from the United States would prefer to delete the definition of substances related to self-reactive substances and add new provisions to classify them in the same section as desensitized explosives in Division 4.1.

165. The Sub-Committee considered that it was too early to take a decision on the question, which should also be studied by the Working Group on the harmonization of classification systems.

Definition of water reactive substances

Document: ST/SG/AC.10/C.3/R.702 (United States)

166. The proposal by the expert from the United States to extend the definition of Division 4.3 not only to substances which, in contact with water, emit flammable gases but also to those which emit non-flammable toxic gases did not command wide support. Several experts took the view that Class 4 concerned risks of flammability and that, to introduce a concept of evolution of non-flammable gases would pose problems regarding transport conditions. Moreover, many water reactive substances are found in Division 6.1 and Class 8.

167. The Sub-Committee reached the conclusion that, in the context of the work on overall harmonization of classification systems, it had to be acknowledged that some substances in contact with water emitted gases other than flammable gases; that in the absence of criteria for the classification of such substances, it would be possible to examine how the emission criteria for substances in Division 4.3 could be used; that organizations competent in matters relating to toxicity, particularly OECD, could be consulted; that to determine the volume of gas emitted, a toxicity hazard should be taken into account.

168. The Chairman also mentioned the separate hazard division for the emission of toxic vapours in Annex III of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal.

Review of the acceptance procedure for classification of dangerous goods of Class 1

Informal document: INF.32 (China)

169. The expert from China considered that it is not necessary in practice to make series 1 tests for the classification of new dangerous goods of Class 1, inasmuch as direct series 2 tests lead to the same classification, at lower cost. He also suggested that the words "new substances" and "new articles" in figure 10.2 of the Manual should be changed to "substances for classification" and "articles for classification".

170. Several experts confirmed that series 1 tests are not strictly necessary from a practical point of view, but they noted that they can be used to define an explosive property of a substance and, accordingly, are of value in the global harmonization of classification systems. Before deleting that test series, the implications should be carefully weighed up and, if such a decision is taken, it would be advisable not to change the numbering of the other series, which is well established.

171. Since the proposal was submitted late and did not command sufficient support, the expert from China was invited to review it in the light of the comments made and to submit it within the time-limit for the next session. It is none the less understood that, since the Manual of Tests and Criteria has been published recently, a revised version will not be published in the 1997/1998 biennium.

Rapid hazard ranking system for transport of chemicals with multiple risks factors

Document : INF.40 (India)

172. The expert from India presented a document on rapid hazard ranking system for transport of chemicals with multiple risks factors. Experts were invited to discuss the matter with the expert from India, and to see how it could be pursued in the context of the UN Recommendations.

Pressure vessel test

Document : INF.24 (Netherlands)

173. The Sub-Committee noted that an ad hoc working group would meet to discuss the question of the UN pressure vessel test on 27 and 28 February 1996 in Munich, Germany. In view of the interest of Japan for this test, the Sub-Committee felt that the expert from Japan should participate in that group so that a single proposal could be presented to the Sub-Committee at its July session.

Harmonized classification criteria for reactive substances and flammable substances

Documents: ST/SG/AC.10/C.3/20/Add.2 (Report of the working groups during the tenth session)

Documents on harmonized classification criteria concerning:

reactive substances: ST/SG/AC.10/C.3/R.610/Rev.1 (United Kingdom),
ST/SG/AC.10/C.3/R.663 (United Kingdom),
ST/SG/AC.10/C.3/R.672 (CEPIC), ST/SG/AC.10/C.3/R.676 (Germany),
ST/SG/AC.10/C.3/R.702 (United States), INF.11 (United States), INF.24
(Netherlands), INF.26 (United Kingdom), INF.43 and INF.44 (Germany)

flammable liquids: ST/SG/AC.10/C.3/R.617 (Germany), ST/SG/AC.10/C.3/R.701 (United
States), ST/SG/AC.10/C.3/R.648 (Secretariat), ST/SG/AC.10/C.3/R.652
(ICAO), ST/SG/AC.10/C.3/R.674 (Germany), ST/SG/AC.10/C.3/R.677
(Germany), ST/SG/AC.10/C.3/R.659 (Argentina)
INF.3 and INF.5 (CEPE), INF.42 and INF.45 (Germany)

flammable gases: ST/SG/AC.10/C.3/R.678 (Germany), ST/SG/AC.10/C.3/R.590 (United
States),
INF.12 (Norway)

flammable solids: ST/SG/AC.10/C.3/R.675 (Germany)

174. Consideration of these documents was assigned to two working groups established in the context of cooperation with ILO and the IOMC Programme and follow-up to the United Nations Conference on Environment and Development (see also ST/SG/AC.10/21, paras. 144 to 154, and Economic and Social Council resolution 1995/6).

175. The Working Group on harmonized classification criteria for reactive substances met on 11 and 12 December under the chairmanship of the Chairman of the Sub-Committee, Mr. Grainger, and the Working Group on harmonized classification criteria for flammable substances met on 12 and 13 December under the chairmanship of Mr. G. Oberreuter (Germany). The reports of these groups were approved by the Sub-Committee and are reproduced as Annex 3 in document ST/SG/AC.10/C.3/22/Add.2.

176. It was agreed that these groups should meet again at the July 1996 session of the Sub-Committee. Proposals will be made on the basis of the conclusions reached at this session. These proposals should be received by the secretariat at the latest by 19 April 1996 so that they may be translated and circulated in time to members of the groups.

177. The expert from Italy expressed disappointment that some existing regulations for purposes other than transport did not seem to have been given sufficient consideration by certain delegations in both working groups.

Harmonized classification criteria for toxicity

Documents : ST/SG/AC.10/C.3/R.653 (European Commission)

ST/SG/AC.10/C.3/R.691 (Germany)

178. The representative of the European Commission informed the Sub-Committee of the latest developments at the level of the European Union as regards inhalation toxicity.

179. The expert from Germany invited the Sub-Committee to reconsider its position concerning inhalation toxicity (see ST/SG/AC.10/21, para. 124-126) in the light of new information he provided on OECD test methods, time of exposure, distinction of vapours/gases from aerosols, units of measurement and limit concentrations.

180. The representative from OECD explained that there was still no agreement at OECD level on criteria for toxicity by inhalation of vapours, inhalation of dusts, and on the middle cut-off limit for oral toxicity. Therefore no progress has been made since document ST/SG/AC.10/C.3/R.589 was presented to the Sub-Committee at its ninth session in July 1994. At that time there was an OECD agreement on values contained in 21 boxes out of the 25 boxes of table 1 in that document, but certain OECD delegations seemed now to be

questioning again some of the values previously agreed upon. Furthermore, he said that the Committee of Experts on the Transport of Dangerous Goods was the only body which had responded to the proposals made by his organisation. The next OECD meeting will take place on 29 and 30 January 1996.

181. The Chairman said that the Committee had already expressed its views on the cut-off limits and criteria to be used in a globally harmonized system, and it would be necessary to know what OECD is now expecting from the Sub-Committee before reconsidering the matter.

182. The Sub-Committee considered that the OECD should not reopen discussions on the 21 agreed values and should concentrate its work on a compromise solution for the four remaining cut-off values. Otherwise, it might be very difficult to meet the UNCED Agenda 21 deadlines.

183. The Sub-Committee agreed that documents ST/SG/AC.10/C.3/R.653 and ST/SG/AC.10/C.3/R.691 should be carried forward to the July 1996 session, together with background documents ST/SG/AC.10/C.3/R.589 (IPCS) and ST/SG/AC.10/C.3/R.467 (United States) and any proposal which might be submitted in connection with the OECD work.

184. The expert from Germany asked whether OECD would also take into account the human experience. He also recalled that the OECD, as a focal point for toxicity/corrosivity, should be asked whether the tests and criteria contained in the UN Manual of Tests and Criteria (section 33.4) for the rate of evolution of flammable gases in case of contact of a division 4.3 substance with water would also be suitable for measuring the rate of evolution of toxic/corrosive gases, in the context of defining criteria for substances which, in contact with water, evolve toxic/corrosive gases. He felt that the question of criteria for toxic or corrosive aerosols should also be considered by OECD. Finally, he expressed the view that the cut-off values for inhalation toxicity currently discussed by OECD should not lead to a significant decrease of transport safety.

185. The representative of OECD said that human experience is not taken into account for acute toxicity because such experience is on a case by case basis and no epidemiological data exist for this situation. Human experience will however be taken into account for long term effects. He recalled also that the work on toxicity criteria was only one part of the OECD mandate and that this work was possible only through voluntary financial contribution from

OECD Member States. Therefore he could not commit his organization as regards further requests from the Sub-Committee in other areas of work.

186. It was recalled that OECD was also the focal point for corrosivity, and as no proposal had been made in this respect, the Sub-Committee invited OECD to consider the criteria contained in Chapter 8 of the UN Recommendations.

187. The representative of OECD underlined that delegations attending the OECD Advisory Group on Harmonization of Classification and Labelling are supposed to ensure coordination with all administrations concerned at national level. All experts of the Sub-Committee representing Member States of OECD were invited to liaise with their OECD delegate to ensure the expression of true coordinated national positions.

Harmonized classification criteria for danger to the environment

Documents : ST/SG/AC.10/R.473 (Germany), ST/SG/AC.10/C.3/R.635 (United Kingdom), ST/SG/AC.10/C.3/R.661 (Argentina), ST/SG/AC.10/C.3/R.664 (United Kingdom)

Informal documents : INF.17 (IMO), INF.22 (ICME), INF.27 (Argentina), INF.34 (Netherlands)

188. The Sub-Committee considered that the suggestion from Germany to create a possible new division 6.3 for environmentally hazardous substances should be addressed only once the criteria have been agreed.

189. Several experts expressed the view that proposals for amending the UN Recommendations such as those contained in ST/SG/AC.10/C.3/R.664 should be made only when a complete set of harmonized criteria has been developed by the focal point (OECD).

190. The expert from India said that criteria for classifying substances as environmentally hazardous on the basis of toxicity to flora and fauna covered the subject only partially and that the aspect of chemicals promoting growth of aquatic flora leading to pollution was also important and needed to be considered.

191. It was recalled that there were still divergent opinions on various aspects such as classification of substances with a low solubility, tainting of seafood, bioaccumulation, solutions and mixtures, labelling of pollutants etc. The main organizations concerned are OECD, IMO, the GESAMP group and the European Commission.

192. The representative of OECD said that the informal working group session which took place at IMO Headquarters in May 1995 and the appearance of the United Kingdom document ST/SG/AC.10/C.3/R.664 had been beneficial in so far as it had reactivated the work of harmonization in that field. He said that the matter would be discussed again at OECD on 29-30 January 1996 and in June 1996.

193. The representative of IMO said that her organization would be willing to organize a new session of an informal working group to make progress if the Sub-Committee felt it necessary.

194. In view of the OECD work programme in the first half of 1996, the Sub-Committee considered that it would not be useful to convene formally a working group in May 1996, although informal consultations could be organized if need be. The discussion of this item was postponed to the next session where the documents submitted could be considered in the light of the progress made by OECD. The expert from the Netherlands asked for document INF.34 to be reproduced as an official document for the next session.

195. The representatives of OECD and IMO agreed to explore means of contact between both secretariats of GESAMP and OECD.

Hazardous wastes

196. The Sub-Committee took note of the information provided by the secretariat on the outcome of the third meeting of the Conference of the Parties to the Basel Convention and of the request made by the Secretariat of the Basel Convention for cooperation in the field of classification of hazardous wastes.

197. The secretariat was requested to provide information on the work of the Basel Convention Technical Working Group as regards the development of classification criteria, the "de minimis" approach and the development of lists of wastes, and to prepare, if necessary, relevant documentation for the next session.

Labelling and hazard communication systems

198. Recalling the importance of labelling and hazard communication for transport safety, the Sub-Committee expressed the wish that any document prepared by the focal point (ILO) in that field for consideration and approval by IFCS should first be submitted to the Sub-Committee for consideration and endorsement.

Other matters

Document : ST/SG/AC.10/C.3/R.673 (Germany)

199. The Sub-Committee agreed that no harmonization work was needed for gases under pressure because there are no differences between the various main existing systems (UN RTDG, EC, OSHA and WHMIS). The definitions should be reflected in the global harmonization approach.

Informal document : INF.46

200. In view of the time scale for the various sessions of the International Forum on Chemical Safety, the Commission on Sustainable Development and finally the General Assembly in 1997, the expert from Germany suggested that the secretariat should prepare a draft report on the contribution of the Committee of Experts to the harmonization work for adoption by the Sub-Committee in July.

201. It was underlined that, despite the short interval between the December 1996 Committee session and the IFCS meeting in February 1997, the Committee could still discuss these matters and resolve pending issues at its December 1996 session.

202. The Sub-Committee expressed the wish to be represented by its Chairman at the session of the IFCS intersessional group to be held in Canberra in March 1996. If this was not possible, the observer from Australia was asked to report back to the Sub-Committee at its July 1996 session.

203. As regards the question of maintaining and updating a globally harmonized system after its final adoption, the representative of ILO said that in case of implementation by means of a Convention, a special secretariat would have to be established. In case of implementation

through recommendations, he expected that the bodies which have developed proposals for specific aspects of the global harmonization would be requested to ensure the follow-up in their respective area of responsibility.

204. The Chairman considered that the mandate of the Committee as regards its contribution to the global harmonization process would expire at the end of the biennium. Maintaining and updating the globally applicable criteria for physical hazards would imply dealing with matters other than transport matters on a permanent basis, and would require an extension of the mandate of the Committee which would have to be formally requested at the appropriate political level.

RELATIONS WITH OTHER ORGANISATIONS

205. The secretariat was requested to invite the secretariat of the Basel Convention to present the work which is presently being carried out for the development of criteria for the classification of hazardous wastes at the next session. A similar invitation should also be sent to the secretariat to the Convention of Biological Diversity as regards the work on International Technical Guidelines for Safety in Biotechnology and related work on genetically modified micro-organisms and organisms.

OTHER BUSINESS

206. The expert from Germany drew attention to the adoption by the ECE Working Party on Facilitation of International Trade Procedure (WP.4) in September 1995 of a revised Recommendation 11 on Documentary Aspects of the International Transport of Dangerous Goods, copies of which were made available. He suggested that the Sub-Committee as well as modal organizations should consider whether this recommendation is suitable for application (see also para. 79 above).

Document : ST/SG/AC.10/C.3/R.683 (HMAC)

207. This document was carried forward to the next session as matters related to the carriage of explosives were not on the agenda of this session.

Application for full membership

208. The observer for Australia said that his Government had decide to apply officially for full membership of the Committee.

209. On behalf of the Committee, the Chairman welcomed that decision and asked the director of the Transport Division to use his good offices with the Secretary-General in support of Australia's application. He also expressed the hope that the Committee's membership would expand in future and encouraged observer countries with expertise in matters relating to the transport of dangerous goods to apply for membership.

FUTURE WORK PROGRAMME

210. The Sub-Committee agreed to the following programme for the twelfth session (1 to 12 July 1996):

First week

- (1) Review of Chapter 12 and of the multimodal tank tables
- (2) Reformatting of the Recommendations on the Transport of Dangerous Goods
- (3) Review of Chapter 15 (Dangerous Goods in limited quantities)
- (4) Routine listing and classification
- (5) Infectious substances (Thursday, 4 July)
- (6) Packagings and Intermediate Bulk Containers (IBCs)
- (7) ISO work on standards for gas cylinders and quality assurance

Second week

- (8) Matters related to explosive substances and articles (Monday, 8 July)
- (9) Matters related to reactive substances (Monday, 8 July)
- (10) Implementation of Agenda 21
 - (a) General
 - (b) Harmonized classification criteria for reactive substances
(Working Group on Tuesday, 9 July)
 - (c) Harmonized classification criteria for flammable substances
(Working Group on Wednesday, 10 July)
 - (d) Harmonized classification criteria for toxicity
 - (e) Harmonized classification criteria for corrosivity
 - (f) Harmonized classification criteria for danger to the environment
 - (g) Labelling and hazard communication systems

- (h) Hazardous wastes
- (i) Other matters
- (11) Relations with other organizations
- (12) Other business

211. The working group on portable tanks will be reconvened during the first week (1 to 5 July 1996). A drafting group will meet during the second week (8 to 12 July 1996) for editorial matters concerning the texts for portable tanks.

212. The deadline for submission of proposals is 19 April 1996. Documents must be received at the latest on that date in paper form or electronic diskette form. Fax messages received on 19 April are not considered as officially received, because the quality of fax transmission is not suitable for reproduction.

213. The following documents were carried forward to the twelfth session:

- (a) from the tenth session:

ST/SG/AC.10/R.460, -/R.499, -/R.471,
ST/SG/AC.10/C.3/R.529, -/C.3/R.591, -/C.3/R.595, -/C.3/R.600 (on the
request of CPE), -/C.3/R.601, -/C.3/R.602, -/C.3/R.604, -/C.3/R.605,
-/C.3/R.606, -/C.3/R.613, -/C.3/R.641,
INF.12, INF.13, INF.24, INF.25.

- (b) from this session:

ST/SG/AC.10/R.473
ST/SG/AC.10/C.3/R.467, -/C.3/R.552, -/C.3/R.589, -/C.3/R.590, -/C.3/R.591,
-/C.3/R.608/Rev.1, -/C.3/R.635, -/C.3/R.643, -/C.3/R.651, -/C.3/R.652,
-/C.3/R.653, -/C.3/R.659, -/C.3/R.660, -/C.3/R.661, -/C.3/R.664,
-/C.3/R.667, -/C.3/R.669, -/C.3/R.670, -/C.3/R.683, -/C.3/R.684,
-/C.3/R.685, -/C.3/R.687, -/C.3/R.691, -/C.3/R.695
INF.24, INF.27, INF.34, INF.44

For reasons of economy, these documents might not be reprocessed by the secretariat, therefore delegations are invited to keep their own copy and to bring them to the meeting.

214. The Sub-Committee decided that, except for comments on existing proposals, no "INF" papers should be submitted to the July 1996 session, especially for listing and classification. The secretariat was requested to postpone to the next biennium any late paper not related to the priority areas of the work of the Committee for this biennium.

TRIBUTES

215. Following the announcement of the retirement of Mr. Berson (France), the Sub-Committee paid tribute to him for his warm and constructive participation in the work of the Sub-Committee and the Committee over the past 10 years.

216. The Chairman announced that Mr. Gough (United Kingdom), who had participated for 15 years in the work of the Committee, Sub-Committee and the previous group of rapporteurs had retired. The Sub-Committee paid tribute to his valuable contribution to the achievements of the Committee in the elaboration of provisions for ensuring the safe transport of dangerous goods by all modes of transport, and wished him a very happy retirement.

ADOPTION OF THE REPORT

217. The Sub-Committee adopted the report on its eleventh session together with its annexes.

Annex 1

**REPORT OF THE WORKING GROUP
ON PORTABLE TANKS**

(See document ST/SG/AC.10/C.3/22/Add.1)

Annex 2

DRAFT AMENDMENTS TO THE RECOMMENDATIONS

CHAPTER 1: SCOPE OF THE RECOMMENDATIONS

1.8 Insert a new section as follows:

"APPLICABILITY

1.8 The provisions of these Recommendations do not apply to the transport of:

- (a) dangerous goods in bulk which, in most countries, are subject to special regulations;
- (b) dangerous goods that are required for the propulsion of the means of transport or the operation of its specialised equipment during transport (e.g. refrigeration units) or that are required in accordance with the operating regulations (e.g. fire extinguishers); and
- (c) dangerous goods, packaged for retail sale, that are carried by individuals for their own use.

NOTE 1: Specific provisions concerning exemptions from the requirements for the transport of dangerous goods and derogations from general exemptions can be found in the modal regulations.

NOTE 2: certain special provisions of Chapter 3 also indicate substances and articles which are not subject to these recommendations."

(Doc. Ref. ST/SG/AC.10/C.3/R.686 and INF.38)

Renumber subsequent sections accordingly as well as all references to chapter 1 paragraph numbers throughout the Recommendations.

1.43

(new) Insert the following new paragraph 1.43: (after existing paragraph 1.41 which has been renumbered 1.42)

"1.43 A mixture or solution containing one or more substances identified by name in these Recommendations or classified under a N.O.S. entry and one or more substances not subject to these Recommendations is not subject to these Recommendations if the hazard characteristics of the mixture or solution are such that they do not meet the criteria (including human experience criteria where mentioned) for any class."

(Doc. Ref. ST/SG/AC.10/C.3/R.686 and INF.38)

CHAPTER 2: LIST OF DANGEROUS GOODS MOST COMMONLY CARRIED

1. Amend entries in the list as follows:

UN 1435 Insert a reference to special provision 223 in column (b3).
(Doc. Ref. ST/SG/AC.10/C.3/R.686)

UN 2344 Delete.
(Doc. Ref. INF.33)

UN 2401 Reclassify from class 3 to class 8 (column (b1)).
Change subsidiary risk (column (b2)) from "8" to "3".
Change packing group (column (c1)) from "II" to "I".
(Doc. Ref. ST/SG/AC.10/C.3/R.697)

UN 2790 Insert reference to new special provision 275 in column (b3).
Delete "II" in the packing group column (c1).
(Doc. Ref. ST/SG/AC.10/C.3/R.647)

UN 2922
UN 2986 }
UN 2987 } Insert "M" in the packing method column (c2).
UN 2988 }

(Doc. Ref. ST/SG/AC.10/C.3/R.694)

UN 3153 Insert "M" in the packing method column (c2).
(Doc. Ref. INF.14/Add.1)

UN 3207 Insert "M" in the packing method column (c2).
(Doc. Ref. ST/SG/AC.10/C.3/R.640)

2. Amend the names (column (a2)) of the 12 following entries as follows:

- | | |
|------|--|
| 2908 | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING |
| 2909 | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM |
| 2910 | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL |
| 2911 | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES |
| 2915 | RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted |
| 2916 | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted |
| 2917 | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted |
| 3323 | RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted |
| 3327 | RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form |
| 3328 | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE |

3329 RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE

3330 RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE

(Doc. Ref. ST/SG/AC.10/C.3/R.703)

3. Add new entries as follows:

"(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
3332	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted	7				

3333 RADIOACTIVE MATERIAL, TYPE A PACKAGE, 7
SPECIAL FORM, FISSILE.

(Doc. Ref. ST/SG/AC.10/C.3/R.703)

[3334	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S.	9		106 276]		
-------	---	---	--	-------------	--	--

[3335	OTHER REGULATED SUBSTANCES, SOLID, N.O.S.	9		106 276]		
-------	--	---	--	-------------	--	--

(Doc. Ref. ST/SG/AC.10/C.3/R.684)

3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3		185 274		M
------	--	---	--	------------	--	---

(Doc. Ref. ST/SG/AC.10/C.3/R.696)

CHAPTER 3: SPECIAL PROVISIONS RELATING TO INDIVIDUAL SUBSTANCES AND ARTICLES

Special Provision

170 Amend "non-injurious" to read "non-toxic" and amend the end to read as follows:

"....electric storage batteries (Class 8) and lithium batteries (Class 9)."

(Doc. Ref. ST/SG/AC.10/C.3/R.649)

275

(new) Add a new special provision as follows:

"Solutions with more than 10% and less than 50% acid, by mass, should be placed in Packing Group III.

Solutions with not less than 50% but not more than 80% acid, by mass, should be placed in Packing Group II."

(Doc. Ref. ST/SG/AC.10/C.3/R.647)

[276

(new) Add a new special provision as follows:

"This includes any material which, in the event of spillage, has anaesthetic, noxious, or other similar properties which could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties."]

(Doc. Ref. ST/SG/AC.10/C.3/R.684)

CHAPTER 6: SPECIAL RECOMMENDATIONS RELATING TO CLASS 6

6.10 Amend to read as follows:

"Biological products, diagnostic specimens and clinical or (bio) medical waste"

(Doc. Ref. ST/SG/AC.10/C.3/R.666)

6.14.9 Renumber as a new paragraph 6.10.3

At the end of the first sentence amend "of this section" to read "6.14".

(Doc. Ref. ST/SG/AC.10/C.3/R.666)

CHAPTER 7: SPECIAL RECOMMENDATIONS RELATING TO CLASS 7

Add the two new entries, 3332 and 3333, in the second column of the Table in Chapter 7 to the entries for Schedule 9 and Schedules 9+13, respectively.

(Doc. Ref. ST/SG/AC.10/C.3/R.703)

CHAPTER 9: GENERAL RECOMMENDATIONS ON PACKING**9.2.1** Add a definition of "Recycled plastics material" in 9.2.1, as follows:

"Recycled plastics material means material recovered from used industrial packagings that has been cleaned and prepared for processing into new packagings. The specific properties of recycled plastics material used for production of new packagings should be assured and documented regularly as part of a quality assurance programme recognized by the competent authority. The quality assurance programme should include a record of proper pre-sorting, verification that each batch of recycled plastics material has the proper melt flow rate, density, and tensile yield strength, consistent with that of the design type manufactured from such recycled material."

(Doc. Ref. ST/SG/AC.10/C.3/R.681)

Revise the definition of "remanufactured packagings" in 9.2.1 by inserting an "(a)" before "metal drums" and adding a new "(b)" as follows:

"(b) plastics drums that:

- (i) are converted from one UN type to another UN type (eg 1H1 to 1H2); or
- (ii) undergo the replacement of integral structural components."

(Doc. Ref. ST/SG/AC.10/C.3/R.681)

9.6.7.1 Amend the beginning of the second sentence to read:

"Except for recycled plastics material as defined in 9.2.1, no...(rest unchanged)"

Add a new third sentence as follows:

"Packaging manufactured with such recycled plastics material should be marked "REC" near the marks prescribed in 9.5.1."

(Doc. Ref. ST/SG/AC.10/C.3/R.681)

CHAPTER 12: RECOMMENDATIONS ON MULTIMODAL TANK TRANSPORT

1. Amend entries in Table 12.2 as follows:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1921	Propyleneimine, inhibited (Doc. Ref. ST/SG/AC.10/C.3/R.694)	3/I		6	6mm	N.A.	12.9.3	12.22.3
2401	Piperidine (Doc. Ref. ST/SG/AC.10/C.3/R.697)	8/I	3	4	6mm	NA	12.7.3	12.22.3
2922	Corrosive liquid, toxic, n.o.s. (Doc. Ref. ST/SG/AC.10/C.3/R.694)	8/I 8/II 8/III	6.1 6.1 6.1	4 4 2.65	8mm 6mm	N.A. N.A.	12.9.3 12.9.3	12.22.3 12.22.3 12.22.2
2986	Chlorosilanes, corrosive, flammable, n.o.s. (Doc. Ref. ST/SG/AC.10/C.3/R.694)	8/II	3	4	6mm	12.7.3	12.9.3	12.22.3
2987	Chlorosilanes, corrosive, n.o.s. (Doc. Ref. ST/SG/AC.10/C.3/R.694)	8/II		4	12.5.2	12.7.3	N.	12.22.3
2988	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s. ⁹ (Doc. Ref. ST/SG/AC.10/C.3/R.694)	4.3/I	8	3	4	6mm	N.A.	12.9.3 12.22.3

2. Add new entries to Table 12.2 as follows:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3153	Perfluoro (methyl vinyl ether)	2.1		14.3 13.4 11.2 10.2	A	N.	1.14	
(Doc. Ref. INF.14/Add.1)								
3207	Organometallic compound ^{2,10} or compound solution ^{2,10} or compound dispersion ^{2,10} , water-reactive, flammable, n.o.s.	4.3/185 3	10	10mm	N.A	N.	12.22.3	
(Doc. Ref. ST/SG/AC.10/C.3/R.640)								
3336	Mercaptans, liquid, flammable, n.o.s. or Mercaptan mixture, liquid, flammable, n.o.s.	3/I 3/II 3/III		6 2.65 1.5	6mm 12.5.2 12.5.2	N.A. 12.7.3 12.7.3	N. N. N.	12.22.3 12.22.2 12.22.2
(Doc. Ref. ST/SG/AC.10/C.3/R.696)								

3. Amend the following entries in table 12.2 in accordance with the amendments to chapter 2:

UN 2344: Delete the entry

UN 2790: Replace "8/II" in column 3 by "8/275".

CHAPTER 15: SPECIAL RECOMMENDATIONS FOR DANGEROUS GOODS IN LIMITED QUANTITIES

15.1 Amend the end of the first sentence to read:

"...certain classes packed in limited quantities."

15.7 Amend to read as follows:

"Limited quantities of dangerous goods for personal or household use, that are packaged and distributed in a form intended or suitable for sale through retail agencies, may furthermore be exempted from marking of the proper shipping name and UN number on the packaging and from the requirements for a dangerous goods transport document."

(INF.38)

INDEX

Amend the index in accordance with the amendments in Chapter 2 and as follows:

Delete the entry "Ammonium tetrachloromercurate (II)".

(Doc. Ref. ST/SG/AC.10/C.3/R.698)

Annex 3

**REPORTS OF THE WORKING GROUPS ON HARMONIZED CLASSIFICATION
CRITERIA**

FOR REACTIVE SUBSTANCES AND FOR FLAMMABLE SUBSTANCES

(See document ST/SG/AC.10/C.3/22/Add.2)
